

What is claimed is:

- 1                    <sup>Sub</sup> 1. A database querying method, comprising:  
 2                    <sup>A17</sup> obtaining a first data item from a database table of a database system in  
 3 response to a query request;  
 4                    obtaining a second data item based on a value related to said first data  
 5 item, said value in an updated log file of said database system;  
 6                    integrating said first and second data items into an integration result; and  
 7                    returning said integration result to said query request.
- 1                    2. The database querying method of claim 1,  
 2                    wherein said second data item is obtained by translating said value  
 3 according to a predetermined translation rule.
- 1                    3. A database querying system comprising:  
 2                    a database access module for obtaining a first data item from a database  
 3 table of a database system in response to a query request;  
 4                    a log extractor module for obtaining a second data item based on a value  
 5 related to said first data item, said value in an updated log file of said database system;  
 6 and  
 7                    an integrator module for integrating said first and second data items into an  
 8 integration result, said integration result related to a response to said query request.
- 1                    4. The database querying system of claim 3 further comprising :  
 2                    a translator module coupled with said log extractor module and with said  
 3 integrator module for modifying said second data item from said log extractor module  
 4 according to a predetermined translation rule, before said second data item is used by said  
 5 integrator module.
- 1                    5. A database querying system, comprising:  
 2                    a database processor for receiving a query request and returning a  
 3 requested record set in response to the query request; and  
 4                    a database system comprising a database table and an updated log file;  
 5 wherein said database processor is operably disposed to:

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6 retrieving a first item from said database table responsive to said  
7 query request;  
8 retrieving a second item, comprising updated log data  
9 corresponding to said first item, from said updated log file;  
10 generating said requested record set, comprising said first item  
11 and said second item; and  
12 returning said requested record set to a query request origin.

1 6. The database querying system according to claim 5,  
2 wherein the database processor comprises a translator for translating  
3 updated log data, according to a predetermined translation rule, into translated log data  
4 and substituting said translated log data for said updated log data in said second item.

1 7. A computer program product for use with a database system,  
2 comprising:  
3 a computer readable medium having program code embodied in said  
4 computer readable medium, said program code comprising:  
5 program code for obtaining a first data item from a database table of said  
6 database system in response to a query request;  
7 program code for obtaining a second data item based on a value related to  
8 said first data item, said value in an updated log file of said database system;  
9 program code for integrating said first and second data items into an  
10 integration result; and  
11 program code for returning said integration result to said query request.  
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1 8. A database question and answer method using one or more  
2 databases, each database comprising a database table and an updated log file, said  
3 updated log file comprising information associated with said database table, said method  
4 comprising:  
5 receiving a query request from a user, said query request comprising a first  
6 data item of said database table;  
7 using said first data item, obtaining a second data item from said updated  
8 log file;

9 modifying said second data item to a third data item using a predetermined  
10 business rule;  
11 generating a virtual table comprising said first and third data items; and  
12 returning to said user an answer based on said virtual table.

1 9. The database question and answer method of claim 8 wherein said  
2 virtual table is discarded after said answer is returned to said user.

1 10. The database question and answer method of claim 8 wherein said  
2 predetermined business rule comprises an accounting time period.

1 11. The database question and answer method of claim 10 wherein the  
2 accounting time period is a fixed day in a month.

1 12. The database question and answer method of claim 8 wherein said  
2 predetermined business rule comprises a base time period.

1 13. The database question and answer method of claim 8 wherein said  
2 predetermined business rule comprises a selected national calendar format for the day,  
3 month, and year.

1 14. The database question and answer method of claim 8, wherein said  
2 selected national calendar format is selected from a group consisting of a Japanese  
3 Calendar or a U.S. Calendar.

1 15. The database question and answer method of claim 8 wherein said  
2 predetermined business rule comprises a table name.

1 16. The database question and answer method of claim 8 further  
2 comprising:

3 when said query request is for a plurality of databases, dividing said query  
4 request into a plurality of sub-requests, each sub-request directed to a database of said  
5 plurality of databases;

6 receiving a record set of a plurality of record sets in response to said sub-  
7 request; and

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8 integrating said plurality of record sets into a result for returning to said  
9 user.

1 17. The database question and answer method of claim 8 wherein said  
2 second data item comprises a timestamp for said first data item.

1 18. The database question and answer method of claim 8 wherein said  
2 virtual table is a view table.

1 19. The database question and answer method of claim 8 wherein said  
2 request is based on a search of said information in said updated log file.

1 20. A system for responding to a user query to a data base management  
2 systems (DBMS), wherein said DBMS comprises a database table and an updated log  
3 file, said system comprising:

4 a database access controller for retrieving a data item from said database  
5 table responsive to said user query;

6 a translation module coupled with said database access controller for  
7 retrieving an attribute related to said data item from said updated log file and for  
8 translating said attribute into a modified attribute according to a translation rule; and

9 an integrator module for integrating said data item and said modified  
10 attribute into a virtual table and returning to said user query an answer based on said  
11 virtual table.

1 21. The system of claim 20 wherein said attribute is a timestamp.

1 22. The system of claim 20 wherein said translation rule comprises a  
2 base time period.

1 23. The system of claim 20 wherein said translation rule comprises a  
2 predetermined country's calendar format.

1 24. A system for responding to a user query to a data base management  
2 systems (DBMS), wherein said DBMS comprises a database table and an updated log  
3 file, said system comprising:

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6                    an extraction means for retrieving an attribute related to said data item  
7    from said updated log file;

10 a virtual table comprising said data item and said modified attribute  
11 wherein a response to said user query is based on said virtual table.

3 a first part, comprising a database table entry, responsive to said user  
4 query; and

1                    26.     The computer readable data transmission medium of claim 25  
2     wherein said data structure is a virtual table.

3                   code for obtaining a first data item from a database table of a database  
4   system in response to a query request;

7                   code for integrating said first and second data items into an integration  
8    result; and

1                    28.     The computer readable medium of claim 27, further comprising  
2     code for obtaining said second data item by translating said value according to a  
3     predetermined translation rule.

1                    29.     A database querying system comprising:

2 an access means for obtaining a first data item from a database  
3 table of a database system in response to a query request;

4 an extractor means for obtaining a second data item based on a  
5 value related to said first data item, said value in an updated log file of said database  
6 system; and

7 an integrator means for integrating said first and second data items into an  
8 integration result, said integration result related to a response to said query request.

1 30. The database querying system of claim 29 further comprising :

2 a translator means for modifying said second data item from said log  
3 extractor module according to a predetermined translation rule, before said second data  
4 item is used by said integrator module.

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